Air Quality Permitting
Statement of Basis

December 29, 2004

Tier II Operating Permit and
Permit to Construct No. T2-020044

Northwest Pipeline Corporation
Owyhee County Compressor Station

Facility ID No. 073-00003

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Final Permit

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Acronyms, Units, and Chemical Nomenclature

CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Idaho Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
NWP	Northwest Pipeline Corporation
NOx	nitrogen oxides
PTC	permit to construct
SM	synthetic minor
TAPs	toxic air pollutants
T/yr	tons per any consecutive 12-month period

1. PURPOSE

The purpose of this technical analysis is to satisfy the requirements of IDAPA 58.01.01.200 et seq and IDAPA 58.01.01.400 et seq of the *Rules* for PTCs and Tier II operating permits, respectively.

2. SUMMARY OF EVENTS

This project was initially for the issuance of a Tier II operating permit for Northwest Pipeline Corporation's (NWP's) compressor station located in Owyhee County. However, prior to the development of a proposed Tier II permit, NWP proposed replacement of an emergency generator. This proposal constituted a modification, and required that the facility submit an application for a PTC. Consequently, issuance of a proposed Tier II permit for a public comment period was delayed until the facility could develop and submit application materials for the replacement generator. Upon receipt and review of NWP's application materials, the new applicable requirements for the replacement generator were developed as required by the Rules for the Control of Air Pollution in Idaho. These new requirements were then rolled into the draft PTC/Tier II combination permit, which was subsequently revised as proposed PTC/Tier II Operating Permit No. T2-020044.

The following list is a date-specific accounting of events that occurred during development the final PTC/Tier II permit.

May 31, 2002	A representative of the Idaho Department of Environmental Quality (DEQ) conducted an air quality inspection of the facility. A subsequent letter issued to the facility on September 20, 2002, noted that the facility appeared to be a major source (refer IDAPA 58.01.01.008.10.c) and should submit a Tier I operating permit application or a synthetic minor permit application.
October 3, 2002	NWP issued a letter to DEQ stating that it intended to submit a facility-wide permit application to update and consolidate existing PTCs. This letter additionally states that the application would request a new PTC to limit potential emissions below major source threshold status.
October 9, 2002	DEQ received a PTC application from NWP.
November 22, 2002	DEQ issued a completeness determination for the October 9, 2002 application.
February 5, 2003	DEQ issued a letter to NWP stating that, upon further review of the application, a PTC could not be issued for the facility. The letter requested that additional information necessary to develop a Tier II operating permit be submitted to DEQ within 60 days.
March 5, 2003	A consultant for NWP submitted an air dispersion modeling protocol for the Tier II operating permit application.
March 26, 2003	Due to ongoing work on the modeling protocol, NWP requested an additional 30 days to submit the application.
March 27, 2003	DEQ issued a letter to NWP, approving the modeling protocol.
April 2, 2003	DEQ issued a letter to NWP, approving an extension of the application deadline.

April 14, 2003	NWP's consultant submitted a facility-wide Tier II operating permit application for the facility.
May 14, 2003	DEQ issued a completeness determination for the April 14, 2003, application.
July 8, 2003	DEQ received a letter from NWP requesting a draft permit for review prior to final issuance.
July 9, 2003	DEQ finalized a draft Tier II operating permit for the facility-review period.
July 21, 2003	The draft Tier II was issued to NWP for their facility-review period.
August 6, 2003	NWP submitted comments in response to the draft Tier II permit.
November 5, 2003	NWP notified DEQ of its intent to replace an existing generator. The replacement generator was a different model than the existing generator, and resulted in an increase in potential emissions of nitrogen oxides (NO_x) and some toxic air pollutants (TAPs). NWP requested that DEQ delay issuance of a proposed Tier II permit until application materials could be updated to reflect these changes.
November 10, 2003	DEQ received the updated application materials from NWP's consultant.
January 30, 2004	Upon review of the revised application materials, DEQ noted that four TAP emissions rates appeared to exceed the corresponding screening levels contained in IDAPA 58.01.01.585-586. DEQ notified NWP of this issue and requested that the facility address the concerns.
February 4 and 5, 2004	NWP submitted additional information and revised TAP emissions estimates for the replacement generator.
March 1, 2004	DEQ requested that NWP address an issue with the emissions factor and/or emissions rate estimate for 1, 3-dichloropropene.
March 24, 2004	NWP submitted a letter addressing the emissions factor for 1, 3-dichloropropene. This letter also indicated that NWP intended to remove an existing emergency generator from the site and operate the proposed replacement generator under the same operational constraints (i.e., permit limits) that were imposed upon the two existing generators.
June 7, 2004	Based on all submittals from NWP, DEQ drafted a proposed PTC/Tier II Operating Permit No. T2-020044 and this statement of basis.
July 8, 2004	NWP provided comments regarding the proposed permit.
July 15 through August 13, 2004	Proposed Tier II Operating Permit and Permit to Construct No. T2-020044 provided for public comment as required by IDAPA 58.01.01.404.01.c. Comments were received only from the facility.
October 21, 2004	NWP provided additional comments regarding inclusion of the newly promulgated fuel sulfur and nitrogen monitoring requirements contained in 40 CFR 60, Subpart GG (July 8, 2004).

3. PERMIT HISTORY

The following is a summary of the permit history of this facility:

June 17, 1991	PTC No. 1180-0003 was issued for the installation and operation of an additional turbine at the existing facility.
November 10, 1992	PTC No. 073-00003 was issued for the installation and operation of two Cummins generator engines.
September 15, 1993	PTC No. 1180-0003 was modified to increase permitted emissions limits for the turbine.
March 29, 1994	PTC No. 073-00003 was issued to allow installation and operation of an additional turbine at the facility.
March 30, 1996	PTC No. 073-00003, dated March 29, 1994, expired because construction of the new turbine never commenced as is required by DEQ's Permit Authority.

4. FACILITY / AREA CLASSIFICATION

The facility is classified as a synthetic minor facility with potential emissions rates greater than 80 percent of the major source threshold levels (i.e., "SM80"), because permitted emissions and operational limits restrict potential emissions rates of all regulated pollutants below major thresholds. The potential emissions rate of CO could exceed 100 T/yr without federally enforceable permit limits. The Standard Industrial Classification of the facility is 4922. The AIRS facility classification is SM80 for CO, and B for all other regulated criteria air pollutants and for total HAP emissions. The AIRS information for this facility is provided in the Appendix of this document.

The facility is located in Owyhee County, in Air Quality Control Region 63, and Zone 11. The area is unclassified for all federal and state criteria air pollutants.

5. PROJECT ANALYSIS

5.1 PROCESS DESCRIPTION

The Owyhee compressor station was originally constructed in 1968, and began operation in January of 1969. The facility is used to increase the operating pressure of a pipeline that delivers natural gas through Northwest's Reno Lateral. The natural gas received at the facility is compressed, metered, and discharged to a transmission pipeline. Electricity for the facility is supplied by a generator. A boiler is used to provide building heat, and a fuel gas heater is used to heat fuel gas for the turbines.

A Hercules emergency generator was historically used during upset conditions and routine maintenance checks; however, this generator was removed during development of the proposed PTC/Tier II permit. Consequently, the emergency generator that appeared in the initial draft permit has not been included in any subsequent versions of the permit.

5.2 EMISSIONS ESTIMATES

Refer to the engineering memorandum contained in Appendix A of this analysis for a discussion of emissions estimates and an analysis of facility-wide emissions. It should be noted that this memorandum was based upon the April 14, 2003 Tier II permit application. Consequently, the replacement generator is not addressed in the memorandum in Appendix A, but rather, has been addressed in Section 5.2.1 of this document.

It should be noted that potential carbon monoxide (CO) emissions rates from all sources at the facility exceed 100 tons per year (T/yr). Northwest has requested permit limits such that only three of the four Solar Saturn turbines and only one of the two Cummins generator engines will be in operation at any given time. These limits will serve to establish potential CO emissions rates below the 100 T/yr threshold (i.e., major source threshold).

5.2.1 Cummins Model G855 Generator - Emissions Estimates

For inventory purposes, the revised potential emissions rates of criteria pollutants from the replacement generator (i.e., a Cummins Model G855), as submitted by the applicant, are shown in Table 5.1. The emission rate calculations submitted by the applicant have been reviewed and were determined to be consistent with current DEQ methodologies. It should be noted that potential CO emissions rates associated with the Cummins Model G855 generator are less than the CO emissions rate of each existing Cummins GTA12 generator.

Table 5.1 POTENTIAL CRITERIA POLLUTANT EMISSIONS RATES

Pollutant	lb/hr	T/yr
PM_{10}	0.01	0.04
SO_2	0.001	0.005
NO_x	8.29	36.30
CO	1.71	7.48
VOC	0.09	0.38

The replacement generator has a slightly greater heat input rating than each existing Cummins GTA12 generator (i.e., an increase of 0.043 million British thermal units per hour), which results in an increase in potential emissions rates of TAPs. Based on emissions factors for natural gas combustion in Table 3.2-3 of the most recent version of AP-42, Table 5.2 lists the TAP increases due to the increase in heat input rating. It should be noted that the increases in potential emissions rates for 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons (PAHs) were based on data supplied by the California Air Resources Board (CARB). This data is available on internet at *http://www.arb.ca.gov/app/emsinv/catef_form.html*, under Source Classification Code No. 20200254. The CARB emissions factors are based on the volume of gas combusted; the increase in volumetric fuel consumption associated with the replacement generator is 4.2E-5 million standard cubic feet per hour.

Table 5.2 POTENTIAL TAP EMISSIONS RATES

Pollutant	Emissions Rate (lb/hr)
1,1,2,2-Tetrachloroethane	1.16E-6
1,1,2-Trichloroethane	7.04E-7
1,1-Dichloroethane	5.20E-7
1,2-Dichloroethane	5.20E-7
1,2-Dichloropropane	5.98E-7
1,3-Butadiene	4.41E-6
1,3-Dichloropropene	5.45E-7

Acetaldehyde	1.28E-4
Acrolein	1.21E-4
Benzene	7.27E-5
Carbon tetrachloride	8.14E-7
Chlorobenzene	5.93E-7
Chloroform	6.30E-7
Ethylbenzene	1.14E-6
Ethylene dibromide	9.80E-7
Formaldehyde	2.51E-4
Methanol	1.41E-4
Methylene chloride	1.90E-6
Naphthalene	4.47E-6
Polycyclic Aromatic Hydrocarbons (PAH)	1.08E-8
Styrene	5.47E-7
Toluene	2.57E-5
Vinyl Chloride	3.30E-7
Xylene	8.97E-6

5.3 MODELING

Refer to the modeling review memorandum contained in Appendix B of this analysis for a discussion of the modeling analysis conducted for the proposed project. DEQ determined that Northwest has successfully demonstrated that the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard.

5.4 REGULATORY REVIEW

5.4.1 Permit to Construct Requirements

The PTC is only for installation and operation of the Cummins G855 generator; therefore, the provisions of IDAPA 58.01.01.200-228 only apply to this source. Permit conditions in the PTC/Tier II permit that are PTC requirements for this generator have been delineated with citation, because these permit conditions do not have an expiration date (i.e., the Tier II permit does have an expiration date).

This source is subject to the following permitting requirements:

IDAPA 58.01.01.201 ..... Permit to Construct Required

This project involves installation of a new source at an existing facility, and constitutes a modification to an existing source, in accordance with IDAPA 58.01.01.006.56. Consequently, the project requires a PTC per IDAPA 58.01.01.201. This facility is not a major facility as defined in IDAPA 58.01.01.205; therefore, the modification must satisfy the nonmajor requirements of IDAPA 58.01.01.200-228. Nonmajor modifications to existing nonmajor stationary sources are required to demonstrate compliance with the provisions of IDAPA 58.01.01.203.

IDAPA 58.01.01.210 ..... Preconstruction Compliance with Toxic Standards

The provisions of IDAPA 58.01.01.203.03 require the permittee to demonstrate compliance with Section 210 of the *Rules for the Control of Air Pollution in Idaho*.

In accordance with IDAPA 58.01.01.210.05, no further preconstruction compliance demonstration is required if the uncontrolled emissions rate increase associated with the modification is less than or equal to the applicable screening level listed in Section 585 or 586. The estimated, potential increases in TAP emissions rates are listed in Table 5.2 of this document. With the exception of 1,3-dichloropropene, all of the other TAP's potential emissions are less than the applicable screening levels, and requires no further analyses.

The estimated increase in the potential emissions rate of 1,3-dichloropropene is 5.45E-7 lb/hr; the screening level contained in Section 586 is 1.9E-7 lb/hr. Although this potential increase is above the screening level, Northwest noted that the U.S. Environmental Protection Agency's (EPA's) AP-42 emission factor rating code for 1,3-dichloropropene is poor (i.e. "E"), and their literary search for a better emission factor found no indication that this pollutant would be emitted from this type of engine. Additionally, the AP-42 emission factor is based on one-half of the method detection limit, rather than actual detection data (i.e., concentrations were below detectable limits of analytical equipment used to measure concentrations in exhaust gases).

Given the relatively minor increase in generator size and the uncertainty in EPA's emission factor, the actual increase in the potential emissions rate of this pollutant is likely to be less than the estimate presented in Table 5.2 and the screening level specified in Section 586. For purposes of this proposed project, DEQ has determined that all potential TAP emissions rate increases have demonstrated preconstruction compliance with Section 210.05 to DEQ's satisfaction, as required by IDAPA 58.01.01.203.03.

IDAPA 58.01.01.577 ..... Ambient Air Quality Standards for Specific Air Pollutants

The provisions of IDAPA 58.01.01.203.02 require the permittee to demonstrate compliance with applicable ambient standards. The facility has demonstrated that emissions increases associated with this modification will comply with ambient standards, as required by IDAPA 58.01.01.203.02 and 577. Refer to the memorandum in Appendix B of this document for additional discussion of this analysis.

IDAPA 58.01.01.625 ..... Visible Emissions Limitations

Emissions from the generator are subject to the requirements of IDAPA 58.01.01.625.

40 CFR 52 ..... Prevention of Significant Deterioration

This facility is not a major facility as defined by IDAPA 58.01.01.205, the proposed modification is not major in and of itself; therefore, PSD permitting requirements do not apply.

40 CFR 60 ..... New Source Performance Standards

This electrical generator is not currently affected by any New Source Performance Standards (NSPS).

40 CFR 61 and 63 ..... National Emission Standards for Hazardous Air Pollutants & Maximum Achievable Control Technology standards

This electrical generator is not currently affected by any National Emission Standards for Hazardous Air Pollutants (NESHAP) or Maximum Achievable Control Technology (MACT) standards.

5.4.2 Tier II Operating Permit Requirements

This Tier II permit is subject to the following permitting requirements:

IDAPA 58.01.01.401 ..... Tier II Operating Permit

Northwest has requested a Tier II operating permit in accordance with IDAPA 58.01.01.401.01.d. This Tier II permit will consolidate applicable requirements from existing PTCs, update/correct emissions limits in the PTCs, and limit facility-wide potential emissions below major source thresholds.

IDAPA 58.01.01.403 ..... Permit Requirements for Tier II Sources

All Tier II operating permit applications are required to demonstrate compliance with the terms of IDAPA 58.01.01.403. This section of the *Rules for the Control of Air Pollution in Idaho* requires that Northwest demonstrate to the satisfaction of DEQ that the stationary sources (i.e., turbines and generators) will comply with all applicable emissions standards, and will not cause or contribute to a violation of any ambient air quality standard.

IDAPA 58.01.01.404.01.c ..... Opportunity for Public Comment

This Tier II permit is subject to the provisions of IDAPA 58.01.01.404.01.c, and a 30-day public comment period was provided by DEQ. The public comment period was provided from July 15 through August 13, 2004. The comments received were received from the facility.

IDAPA 58.01.01.406 ..... Obligation to Comply

Receipt of this Tier II permit does not relieve Northwest from the responsibility to comply with all federal, state, and local rules and regulations.

IDAPA 58.01.01.407 ..... Permit Processing Fees for Tier II Permits

This permit is subject to the fee provisions of IDAPA 58.01.01.407.01, and Northwest will be assessed a processing fee of $10,000.00.

IDAPA 58.01.01.577 ..... Ambient Air Quality Standards for Specific Air Pollutants

Northwest submitted a modeling analysis demonstrating that potential emissions will not cause or significantly contribute to a violation of any ambient air quality standard; therefore, the requirements of IDAPA 58.01.01.403.02 and .577 are satisfied. Refer to the modeling review memorandum contained in Appendix B of this analysis for a discussion of Northwest's modeling analysis.

IDAPA 58.01.01.625 ..... Visible Emission Limitation

Emissions from any point of emissions are required to comply with the opacity standards of IDAPA 58.01.01.625-626, unless exempted under Section 625.01. Sources at the facility are subject to this standard.

IDAPA 58.01.01.650 ..... Rules for the Control of Fugitive Dust

This facility is required to comply with the fugitive dust prevention requirements of IDAPA 58.01.01.650-651.

IDAPA 58.01.01.675 ..... Fuel-Burning Equipment Standards

The boiler and gas heater constitute fuel-burning equipment as defined by IDAPA 58.01.01.006.41. Depending upon the start-up date of operation, these units are subject to the grain-loading standards of Section 676 or 677of the Rules for the Control of Air Pollution in Idaho; however, all affected units are restricted to natural gas combustion. Consequently, the applicable grain-loading standard under either section is 0.015 grains per dry standard cubic foot (gr/dscf), corrected to 3% oxygen.

Based upon current DEQ guidance, the turbines and generators are not fuel-burning equipment because these units produce heat/power by direct heat transfer.

40 CFR 60..... New Source Performance Standards

The NSPS provisions of 40 CFR 60.330, Subpart GG apply to the four turbines. The heat input at peak load is greater than 10.7 gigajoules per hour and the turbines were constructed, reconstructed, or modified after October 3, 1977.

On July 8, 2004, EPA promulgated final regulation regarding fuel nitrogen and fuel sulfur content monitoring and recordkeeping requirements. This permit has incorporated those requirements.

40 CFR 61..... National Emission Standards for Hazardous Air Pollutants

This facility is not a major source of HAP emissions; therefore, the stationary combustion turbines are not subject to any NESHAP requirements.

40 CFR 63..... Maximum Achievable Control Technology Standards

Any new, existing, or reconstructed stationary combustion turbine located at a major source of HAP emissions is subject to the requirements contained in 40 CFR 63, Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.

Because these stationary combustion turbines are not located at a major source of HAP emissions, the requirements of Subpart YYYY do not apply.

5.5 FEE REVIEW

This facility is classified as a synthetic minor facility because its potential to emit is limited to less than major source thresholds. As a result, the applicable processing fee is $10,000 in accordance with IDAPA 58.01.01.407.01. Payment of the processing fee is due within 45 days of receipt of the final permit and fee assessment.

6. PERMIT CONDITIONS

This section discusses and documents the reasoning behind monitoring and recordkeeping requirements in each section of the proposed PTC/Tier II permit.

6.1 FACILITY-WIDE CONDITIONS

Fugitive Particulate Matter..... Permit Condition 2.1

Permit Condition 2.1 states that all reasonable precautions shall be taken to prevent particulate matter (PM) from becoming airborne in accordance with IDAPA 58.01.01.650-651.

Historical records and application materials for the Owhyee station indicate that emissions sources at the facility are largely enclosed by buildings (i.e., there are no readily apparent sources of fugitive emissions). The compressor station is an unmanned facility located in a sparsely populated and remote

area; therefore, the facility has asserted that routine fugitive emissions inspections are an unreasonable compliance demonstration in this situation. Upon review of facility information and Northwest's comments, DEQ acknowledges Northwest's position in this matter, and has not included inspection requirements in the permit. However, DEQ notes that the facility is still subject to the provisions of IDAPA 58.01.01.650-651, and will be subject to periodic DEQ-inspections to assure that compliance with the fugitive emissions provisions is being met. The permittee will also be required to monitor and respond to any fugitive dust complaints from members of the public.

Permit Condition 2.2 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Finally, in the event that DEQ-inspections and/or the compliant records should indicate that the facility is not compliance with Sections 650 and 651, DEQ may revise the Tier II permit to require more stringent fugitive monitoring provisions or implementation of a source-specific fugitive dust maintenance plan.

Control of Odors ..... Permit Condition 2.3

Permit Condition 2.3 and IDAPA 58.01.01.776 both state that: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."* This condition is currently considered federally enforceable until such time it is removed from the State Implementation Plan (SIP), at which time it will be a state-only enforceable requirement.

Permit Condition 2.4 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 2.4 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Visible Emissions..... Permit Condition 2.5

IDAPA 58.01.01.625 and Permit Condition 2.5 state that: *"(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than twenty percent (20%) opacity as determined . . ."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this rule.

Comments submitted by Northwest note that all equipment at the facility is operated exclusively on natural gas, and is therefore extremely unlikely to produce any visible emissions from any point source. Additionally, the compressor station is an unmanned facility located in a remote area, making routine visible emissions inspections a somewhat burdensome method for a compliance demonstration. In this specific instance, DEQ acknowledges Northwest's position in this matter, and has determined that compliance with Permit Condition 2.5 can be demonstrated by the exclusive use of natural gas at this

facility (refer to Permit Conditions 3.5, 4.3, and 5.4). Historical source test data indicates that natural gas-fired combustion sources exhibit no visible emissions, and DEQ-inspection reports do not indicate any historical visible emissions compliance issues at this facility.

It should be noted that, regardless of the monitoring demonstration required by the permit, this facility remains subject to the provisions of Section 625, and will be subject to periodic DEQ-inspections to assure on-going compliance with this requirement. The compliance demonstration method currently required by the permit may be revised if the facility is observed to be in noncompliance with IDAPA 58.01.01.625.

In the event that visible emissions exceed the standard, the permittee must take appropriate corrective action as expeditiously as practicable. Moreover, the permittee must report the exceedance in accordance with the excess emissions rules in IDAPA 58.01.01.130-136.

Air Pollution Emergency Rule ..... Permit Condition 2.6

Permit Condition 2.6 requires the permittee to comply with the air pollution emergency rule. The compliance demonstration is contained within the text of IDAPA 58.01.01.550-562. No further clarification is necessary.

Open Burning..... Permit Condition 2.7

All open burning shall be done in accordance with IDAPA 58.01.01.600-616. The compliance demonstration is contained within the text of IDAPA 58.01.01.600-616. No further clarification is necessary.

Excess Emissions ..... Permit Condition 2.8

Permit Condition 2.8 requires the permittee to comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. However, it should be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules for the Control of Air Pollution in Idaho* only apply if the permittee anticipates requesting consideration under subsection 131.02 of the *Rules for the Control of Air Pollution in Idaho* to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states "*...The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05.*" Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the *Rules for the Control of Air Pollution in Idaho* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

The compliance demonstration is contained within the text of Permit Condition 2.8. No further clarification is necessary.

6.2 EMISSIONS GROUP NO. 1 – FOUR SOLAR SATURN 10-T1302 TURBINES

Carbon Monoxide Emissions Limits..... Permit Condition 3.2

Permit Condition 3.2 sets one inclusive, annual CO emissions limit for the four turbines. As discussed previously, a CO emissions limit is required in order to establish synthetic minor status for the facility. The major facility threshold is an annual rate; therefore, only an annual emissions rate limit is required in the permit (i.e., no hourly limit is required).

The potential CO emissions rate for each turbine is taken directly from the manufacturer's predicted emission performance data. The CO emissions limit in Permit Condition 3.2 represents a summation of the annual, potential CO emissions rate for three turbines.

The CO emissions limit in Permit Condition 3.2 is based on operation of three turbines at design input capacity for 8760 hours per year, using manufacturer's predicted emission performance data. Northwest must maintain a load of 80% or greater for each turbine in order to rely upon the manufacturer's data for emissions estimates.

Permit Condition 3.4 restricts turbine operation such that only three turbines may be operated at any given time. Permit Condition 3.7 requires that the gas generator speed of each turbine at 80% or greater during normal operation. Therefore, so long as the permittee complies with Permit Conditions 3.4 and 3.7, the facility will be in compliance with Permit Condition 3.2, and no further demonstration is required in the permit.

New Source Performance Standards..... Permit Conditions 3.3 and 3.6

As discussed previously, each of the four turbines is affected by the NSPS provisions of 40 CFR 60, Subpart GG. This NSPS sets forth standards for NO_x and sulfur dioxide (SO_2) and are contained in the Tier II permit as Permit Conditions 3.3 and 3.6.

It should be noted that the NO_x standard is based on the equation contained in 40 CFR 60.332(a)(2). The variables applied in this equation to derive the standard listed in Permit Condition 3.3 are outlined in the technical memorandum for PTC No. 1180-0003, dated June 17, 1991. Northwest did not elect to use the fuel bound nitrogen correction.

The applicable compliance demonstration required for the NSPS standards are set forth in 40 CFR 60.334(b). This monitoring provision applies to turbines without steam or water injection.

On July 8, 2004, EPA promulgated final regulation regarding fuel nitrogen and fuel sulfur content monitoring and recordkeeping requirements. This permit has incorporated these requirements as Permit Condition 3.12. Permit Condition 3.12 is provided below for reference:

3.12 Sulfur and Nitrogen Content Monitoring – New Source Performance Standard Requirements

The permittee shall demonstrate that the fuel combusted in the Solar Saturn 10-T1302 turbine engines meets the definition of natural gas in 40 CFR 60.331(u). The permittee shall use one of the following sources of information to make the required demonstration:

- The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or
- Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section

2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

- No monitoring of fuel nitrogen content is required so long as the permittee does not claim an allowance for fuel bound nitrogen as described in 40 CFR 60.332(a), and so long as natural gas is the fuel fired in the turbine engines.

- For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the EPA, continue monitoring on this schedule.

Records demonstrating compliance with Permit Condition 3.12 shall be maintained in accordance with Permit Condition 2.10 and shall be made available to DEQ representatives for any on site inspection.

Turbine Operation Limit ..... Permit Condition 3.4

Permit Condition 3.4 restricts turbine operation such that only three turbines may be operated at any given time. Northwest's permit application only modeled the ambient impacts of three turbines, and has not demonstrated that operation of four turbines will comply with IDAPA 58.01.01.403. Additionally, operation of four turbines simultaneously could violate the emissions limit in Permit Condition 3.2 and/or increase the potential to emit CO emissions above the major facility threshold.

Permit Condition 3.10 requires the permittee to monitor and record which of the turbines is in operation at all times. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

Turbine Load Requirements..... Permit Condition 3.7

Permit Condition 3.7 requires that the gas producer speed of each turbine be maintained at 80% or greater during operation. The gas producer speed may be lower than 80% during startup, shutdown, and load change. The manufacturer's predicted emission performance data for the Solar Saturn 10-T1302 turbine states that "an emission warranty for non-SoLoNO_X equipment is for greater than 0 deg F [ambient temperature] and between 80% and 100% load." Consequently, Northwest must maintain a load of 80% or greater for each turbine in order to rely upon the manufacturer's data for emissions estimates.

It should be noted that DEQ also investigated records of average ambient temperatures in the area during cold-weather months. Although no weather data could be located for Riddle, Idaho (i.e., the town located closest to the facility), average temperature data, for a minimum data period of 30 years, was located for Owyhee, Nevada (located approximately 18 miles south of Riddle). Refer to *http://www.weather.com/weather/climatology/monthly/USNV0071*. This data indicates that the average low temperatures will be slightly greater than 10°F; therefore, the adverse impact on the manufacturer's predicted emission performance data associated with cold-temperature performance should not be excessive, and no permit conditions regarding ambient temperature have been incorporated into the permit.

Permit Condition 3.11 requires the permittee to monitor and record the range of gas producer speed (%NGG), including periods of startup, shutdown, and load change, for each turbine in operation, on a consecutive 12-month period basis. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

Inspection Requirement ..... Permit Condition 3.8

Permit Condition 3.8 requires that the permittee inspect the turbines for physical degradation that could

adversely affect combustion performance of the units at least once per year, or as needed during operation. This condition also requires that the permittee shall make all necessary repairs to the turbines to ensure efficient operation. This permit condition appears in the permit in order to assure that the turbines are maintained in good working order and should assure that the manufacturer's predicted emission factors for the turbines will remain valid over time.

Permit Condition 3.13 requires the permittee to keep records of inspections carried out to comply with Permit Condition 3.8. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

6.3 EMISSIONS GROUP NO. 2 – THREE CUMMINS GENERATOR ENGINES

Carbon Monoxide Emissions Limits..... Permit Condition 4.2

Permit Condition 4.2 sets annual CO emissions limits for the generator engines. As discussed previously, a CO emissions limit is required in order to establish synthetic minor status for the facility. The major facility threshold is an annual rate; therefore, only an annual emissions rate limit is required in the permit.

Permit Condition 4.3 restricts the generators to combustion of natural gas. Permit Condition 4.4 restricts generator operation such that only one generator may be operated at any given time. The CO emissions limit in Permit Condition 4.2 is based on the worst-case, with respect to CO emissions rates, generator operating at design input, on natural gas, for 8760 hours per year. Therefore, so long as the permittee complies with Permit Conditions 4.3 and 4.4, the facility will inherently be in compliance with Permit Condition 4.2, and no further compliance demonstration is required for Permit Condition 4.2.

Generator Operation Limit..... Permit Condition 4.4

Permit Condition 4.4 restricts turbine operation such that only one generator may be operated at any given time. Northwest's permit application only modeled the ambient impacts of the worst-case, with respect to CO emissions rates, generator, and has not demonstrated that simultaneous operation of two and/or three turbines will comply with IDAPA 58.01.01.403. Additionally, operation of more than one generator simultaneously could violate the emissions limit in Permit Condition 4.2.

Permit Condition 4.6 requires the permittee to monitor and record which generator is in operation at all times. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

Inspection Requirement ..... Permit Condition 4.5

Permit Condition 4.5 requires that the permittee inspect the generators for physical degradation that could adversely affect combustion performance of the units at least once per year, or as needed during operation. This condition also requires that the permittee shall make all necessary repairs to the generators to ensure efficient operation. This permit condition appears in the permit in order to assure that the turbines are maintained in good working order.

Permit Condition 4.7 requires the permittee to keep records of inspections carried out to comply with Permit Condition 4.5. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

6.4 EMISSIONS UNIT NO. 3 – ONE SELLERS BOILER AND ONE P&A FUEL HEATER

Carbon Monoxide Emissions Limits..... Permit Condition 5.2

Permit Condition 5.2 sets annual CO emissions limits for the boiler and gas heater. As discussed previously, a CO emissions limit is required in order to establish synthetic minor status for the facility. The major facility threshold is an annual rate; therefore, only an annual emissions rate limit is required in the permit.

Northwest's permit application used the rated input capacity of each unit, the heat content of natural gas, and an emissions factor to estimate potential emissions from the boiler and fuel heater. These emissions estimates appear as Permit Condition 5.2, and represent the potential emissions rate for each unit while combusting natural gas. Consequently, these units will demonstrate compliance with the emissions limits by the exclusive use of natural gas. Permit Condition 5.4 restricts the units to natural gas combustion; therefore, no further demonstration is required.

Fuel-Burning Equipment ..... Permit Condition 5.3

As discussed previously, the boiler and gas heater are subject to a grain-loading limit of 0.015 gr/dscf, corrected to 3% oxygen. This requirement appears as Permit Condition 5.3 in the permit.

These units are restricted to natural gas combustion by Permit Condition 5.4. By using an AP-42 PM emissions rate for natural gas combustion, the volume of flue gas created from combustion of one million British thermal units of natural gas, the heat content of the natural gas, and elevation corrections, it can be shown that combustion of natural gas will not exceed the grain-loading standard. Consequently, no compliance demonstration is required for the natural gas-fired units because they will not exceed the grain-loading standard.

Inspection Requirement ..... Permit Condition 5.5

Permit Condition 5.5 requires that the permittee inspect the sources in Emissions Group No. 3 for physical degradation that could adversely affect combustion performance of the units at least once per year, or as needed during operation. This condition also requires that the permittee shall make all necessary repairs to the units to ensure efficient operation. This permit condition appears in the permit in order to assure that these units are maintained in good working order.

Permit Condition 5.6 requires the permittee to keep records of inspections carried out to comply with Permit Condition 5.5. Records are to be maintained onsite and in accordance with Permit Condition 2.10.

6.5 EMISSIONS LIMITS SUMMARY

The following table contains a summary of all emissions limits contained in the PTC/Tier II permit.

Table 6.1 SUMMARY OF ALLOWABLE EMISSIONS

Northwest Pipeline Corp., Owyhee County Compressor Station					
Source Description	**PM_{10} T/yr**	**NOx T/yr**	**CO T/yr**	**VOC T/yr**	**SO_2 T/yr**
Four Solar Saturn 10-T1302 turbines			60.00		
Three Cummins generator engines			22.74		
Sellers boiler			0.73		
P&A fuel gas heater			0.13		

As indicated in Table 6.1, only CO is specifically limited in the permit. Emissions from all other criteria air pollutants are inherently limited by operational constraints.

7. COMPLIANCE REVIEW

As previously detailed in Section 2 of this document, the reason that Northwest submitted a Tier II operating permit application was due to the findings of a DEQ inspection conducted on May 31, 2002. At the time of the inspection, the facility had a PTC for one of the turbines with a NO_x emissions limit of 40.3 T/yr (the other two turbines were installed prior to promulgation of the *Rules for the Control of Air Pollution in Idaho*). Since the two "grand fathered" turbines were similar or identical to the permitted turbine, it appeared that the facility could potentially be a major source in accordance with IDAPA 58.01.01.008.10.c, requiring a Tier I operating permit. Since the facility had not submitted a Tier I application within 12 months of becoming a Tier I source (refer to IDAPA 58.01.01.313.01) and had not paid registration fees (refer to IDAPA 58.01.01.389), a letter, warning Northwest of potential compliance violations, was issued by DEQ on September 20, 2002.

The application submitted by Northwest indicates that facility-wide, potential NO_x emissions rates are well below the major source threshold (i.e., the emissions limit in the PTC was substantially greater than the physical design capability of the turbines to emit NO_x). The application also indicates that, based solely upon design capacities of the equipment, potential CO emissions could exceed major source thresholds. However, PTC No. 073-0003, dated November 10, 1992, limited generator operation in a manner that established synthetic minor status. So it would appear that Northwest did not have a potential emissions rate for any regulated criteria pollutant that exceeded major source thresholds.

This PTC/Tier II permit serves to establish facility-wide emissions limits less than the major source thresholds for all regulated pollutants.

8. PUBLIC COMMENTS AND RESPONSE TO COMMENTS

The following seven comments were provided by NWP. DEQ's responses and action taken with respect to the comment immediately follows.

Comment #1 **Number 5 on page 1. Change the Responsible Official to Larry Hjalmarson, Director of Operations, and telephone number (801) 584-6402.**

Response to #1 The permit was revised in response to the comment.

Comment #2 **Number 1.1 on page 4. Correct the wording. This Tier II permit limits the facility's potential . . .**

Response to #2 The proposed permit stated "This Tier II permit limits **on** the facility's potential . . ." The word "on" was a typographical error and has been deleted. The permit has been revised as requested.

Comment #3 **Number 3.1 on page 9. Correct the wording. The facility utilizes three stationary Solar Saturn 10-T1302 turbines (Units No. 1, 2, and 3), with a connection for one portable . . .**

Response to #3 The proposed permit stated "The facility utilizes three stationary Solar Saturn 10-T1302 turbines (Units No. 1, 2, and 3), with **connections** for one portable . . ." There

is only one connection for the portable stationary turbine; hence, the plural noun "connections" has been changed to the singular noun "connection". For correct grammar, the function word "a" was added before the singular noun "connection".

Comment #4 **Numbers 3.10 and 3.11 on page 10. Correct the wording. The records shall be maintained on site or at an alternate location approved by DEQ. . . . The facility is unmanned and our official records are maintained in our main office in Salt Lake City. We request that you add the Salt Lake City office to this sentence.**

Response to #4 All permit conditions requiring that records be maintained on site has been changed to require that all records be maintained in accordance with Permit Condition 2.10 and be made available to DEQ representatives for any on site inspection.

Comment #5 **Number 4.1 on page 12. Correct the spelling of Cummins in the first sentence.**

Response to #5 The permit was revised in response to the comment.

Comment #6 **Number 4.6 on page 13. This condition requires us to monitor and annual hours of operation and annual amount of fuel used in each of the generators. Each generator is equipped with an hour meter and fuel meter and we can monitor annual fuel and hours. The condition also states that these records shall be maintained on a consecutive 12-month rolling basis. The facility is not manned and it is located in an extremely remote location. Inclement weather can limit access to the facility for long periods during the winter months. The generator data must be entered manually when a technician is on site. It is unreasonable and not possible to provide the data on a 12-month rolling basis. The facility can not use more power than one of the generators can generate and we are not connected to a power grid so there isn't anywhere for excess power to go. The only time more than one generator will operate is during routine scheduled maintenance checks that are required by the equipment manufacturer. We can provide annual data and show compliance to condition 2.10. We request that the requirement for data on a 12-month rolling basis be deleted.**

Response to #6 The permit was revised in response to the comment.

Comment #7 **NWP submitted a comment by fax requesting to incorporate the newly promulgated sulfur and nitrogen monitoring requirements contained in 40 CFR 60, Subpart GG (July 8, 2004). NWP submitted an example of how this final regulation was incorporated into a permit recently issued to NWP for a compressor station located in Wyoming.**

Response to #7 DEQ compared the example and the language contained in the federal regulation. Aside from the site specific requirements, the example contained the federal language verbatim. For the final Owyhee permit, DEQ incorporated the federal regulation from EPAs e-CFR website http://www.gpoaccess.gov/ecfr/ into the final permit.

The final regulation allows for the use of a previous custom fuel monitoring schedule. NWP was previously issued a waiver for nitrogen monitoring from the EPA. Hence, nitrogen monitoring is not required so long as pipeline quality natural gas is combusted in the turbine engines, which is the case.

9. FEES

This facility is classified as a synthetic minor facility because its potential to emit is limited to less than major source thresholds. As a result, the applicable processing fee is $10,000 in accordance with IDAPA 58.01.01.407.01. Payment of the processing fee is due within 45 days of receipt of the final permit and fee assessment.

10. RECOMMENDATIONS

Based on the permit application and review of state rules and federal regulation, staff recommends that DEQ issue final Tier II Operating Permit and Permit to Construct No. T2-020044 to NWP for its Owyhee County compressor station. The project does not involve PSD permitting requirements. A public comment period was provided as required by IDAPA 58.01.01.404.01.c.

SO/BR/sd Permit No. T2-020044

11. APPENDIX - AEROMETRIC INFORMATION RETRIEVAL SYSTEM INFORMATION

The facility's Aerometric Information Retrieval System classification is shown in the following table.

Facility Name: Northwest Pipeline Corp.
Facility Location: Owyhee County, Idaho
Facility ID No.: 073-00003

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B		B				B	U
NO_x	B		B				B	U
CO	SM80					SM80	B	U
PM_{10}	B						B	U
PT (Particulate)	B						B	U
VOC	B						B	U
THAP (Total HAPs)	B						B	NA
			APPLICABLE SUBPART					
			GG					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).